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EXAMINER

RYMAN, DANIEL J

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/401,074

Applicant(s)

VERMA ET AL. *W*

Examiner

Daniel J. Ryman

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2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09/22/99.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 is/are allowed.
- 6) ☒ Claim(s) 8, 10 and 11 is/are rejected.
- 7) ☒ Claim(s) 1, 2, 8-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☒ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. See references cited on page 3, lines 13-17 and lines 22-23 and page 4, lines 5-7.

### ***Specification***

2. The disclosure is objected to because of the following informalities: In the abstract (page 19) line 2, "Peak to Average power" should be "Peak to Average Power."

Appropriate correction is required.

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the disclosure should be amended to include the teaching that the predetermined threshold is selectable to control the number of samples violating the threshold as seen in claims 1 and 8 (claim 1, lines 9-10 and claim 8, lines 9-10). The examiner failed to find evidence of this teaching in the disclosure.

### ***Claim Objections***

4. Claim 1 is objected to because of the following informalities: On page 15 line 23, "the direction of the gradient vector of a magnitude not exceeding" would be more easily understood

if written as “the direction of the gradient vector, the magnitude of the correction not exceeding.”  
Appropriate correction is required.

5. Claim 2 is objected to because of the following informalities: On page 15 line 2, “symbol, the upper limit correction value further comprises” would be more easily understood if written as “symbol further comprises.” As written, the phrase implies that the value, itself, rather than the method further comprises the elements of the claim. Appropriate correction is required.

6. Claim 8 is objected to because of the following informalities: On page 16 line 7, “compare magnitudes” should be “comparing magnitudes.” Appropriate correction is required.

7. Claim 10 is objected to because of the following informalities: On page 17 line 3, “peak kernel by amount” should be “peak kernel by an amount.” Appropriate correction is required.

8. Claim 11 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 11 further limits a peak kernel. Claim 7 does not contain a peak kernel. The examiner contends that claim 11 should depend on claim 8 rather than claim 7. For the purposes of prior art rejections, the examiner will treat claim 11 as if it depends upon claim 8.

9. Claims 1 and 8 are objected to because they do not contain a transitional phrase. The use of a transitional phrase clearly demarcates the ending of the claim’s preamble and the beginning of the claim’s body. A transitional phrase can also aid in defining the scope of a claim by rendering the claim “open ended” or “close ended,” see MPEP § 2111.03. The examiner suggests using the transitional phrase “comprising” since it is open-ended and commonly used.

Thus the examiner suggests that claim 1, line 5 should read "into the signal to be transmitted, comprising:" and claim 8, line 5 should read "transmitted, comprising:".

***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claim 10 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In line 8 of claim 10, the peak of the frame is inverted while in the specification the peak of the kernel is inverted (see page 11 lines 15-16). Since claim 10 and the description contradict one another, the claim is deemed not enabling. The examiner will base prior art rejections on the interpretation that the peak of the kernel is inverted.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tellado et al (USPN 6,424,681) in view of Derks et al (USPN 6,021,119).

14. Regarding claim 8, Tellado discloses sampling the symbols to be transmitted of the frame (col. 5 lines 15-24); comparing the magnitudes of the samples to a threshold to determine if the

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samples violate the threshold (col. 6 lines 54-56) where if samples are to be corrected to within a threshold it is obvious that the samples would be tested to determine if the sample exceeded the threshold; determining an upper limit correction value for each symbol (col. 6 lines 50-58) where the upper limit of the correction value is the value needed to negate the frame's peak to below the threshold; computing a peak reduction kernel (col. 7 line 59-col. 8 line 47); applying the kernel to the sample to reduce the peak (col. 7 line 59-col. 8 line 2 and col. 8 lines 43-47); and transmitting the modified symbol (col. 2 lines 56-62). Tellado does not disclose that the method's correction values control the amount of signal to noise ratio deterioration because Tellado's method is designed such that it does not affect the signal to noise ratio. However, Tellado does recognize that the correction values will affect the signal to noise ratio unless measures are taken to design around this problem (col. 2 lines 42-47). Thus it would have been obvious to ensure that the correction values are set such that SNR is not increased to the point that communication is not possible. Tellado possibly does not disclose that the threshold is selectable and the correction value is selectable. Derks discloses having selectable thresholds for a system in order to allow a user to be able to control the operation of a system according to the user's preferences (col. 11 lines 29-43). Thus it would have been obvious to one of ordinary skill in the art to have the threshold and the correction value be selectable in order to allow the system user to tailor the system to the user's preferences.

15. Regarding claim 10, referring to claim 8, Tellado discloses rotating the kernel to ensure that the peak of the kernel coincides with the peak of the frame (col. 8 lines 45-47); determining whether or not the peak of the kernel has a sign equal to the sign of the frame's peak (col. 7 lines 54-61 and col. 8 lines 43-59 esp. lines 48-50); if the signs are equal the kernel is multiplied by

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minus one (col. 7 lines 54-61 and col. 8 lines 43-59 esp. lines 48-50); and adding the peak of the kernel to the samples to reduce the peak of the frame (col. 7 lines 1-9 and lines 54-61).

16. Regarding claim 11, referring to claim 8, Tellado discloses applying the peak kernel to the sample where the kernel has a magnitude scaled to the extent that the frame's magnitude exceeds the threshold (col. 8 lines 43-59 esp. lines 50-55).

***Allowable Subject Matter***

17. Claims 1-7 are allowed. Regarding claim 1, the examiner did not find support in the prior art for having a net penalty function determined with a gradient being computed from this net penalty function.

18. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art did not support having the phase component of the correction value be set to zero to ensure the kernel had its peak at the first sample of the frame.

19. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art did not support having the scaling factors chosen to ensure that the sum of the magnitudes of the kernels is equal to one. While Tellado did disclose having the magnitude of each kernel be one, Tellado did not disclose having the sum of the magnitudes equal one.

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*Conclusion*

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Anwater et al (USPN 6,175,551) see col. 4 lines 59-66 which are pertinent to claims 1 and 8. May et al (USPN 5,835,536) see col. 3 lines 3-19 and col. 4 lines 26-58.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-4:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-6743 for regular communications and (703)308-9051 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Daniel J. Ryman  
Examiner  
Art Unit 2665

DJR

Daniel J. Ryman  
November 1, 2002



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